Dec. 6, 1932. R. M. HAYS 1,889,985

CARTON OR CONTAINER

Filed Feb. 9, 1931

Fig. 1.

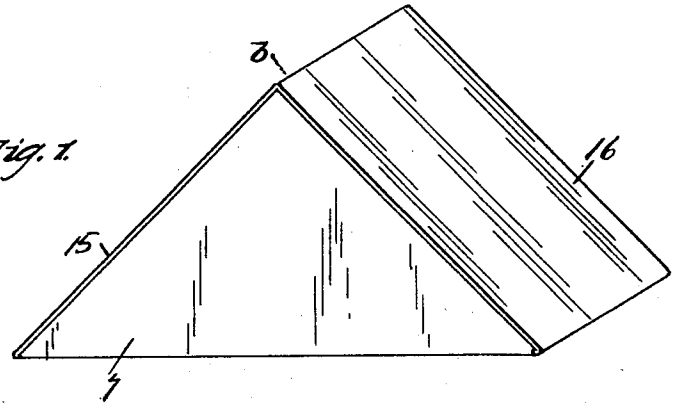


Fig. 2.

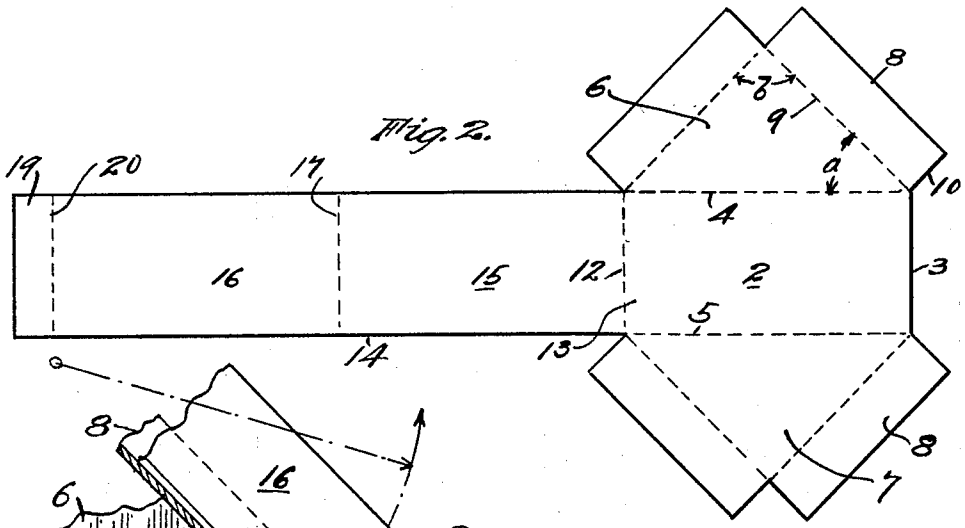


Fig. 3.

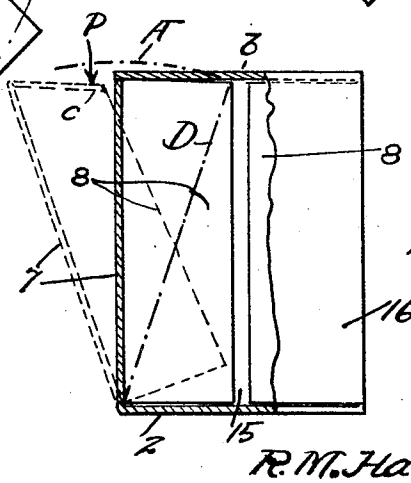


Fig. 4.

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UNITED STATES PATENT OFFICE

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CARTON OR CONTAINER

Application filed February 9, 1931. Serial No. 514,532.

This invention relates to cartons and containers and more especially to those which are made up of one piece of sheet stock; which may be of any bendable material.

An object is to provide a container, hereinafter called the carton, which includes several component elements of monopiece blank and which includes certain foldable side walls, a base and a cover strip which, when set up as a formed carton, will be very effectively interlocked because of peculiar flange and tongue parts, and certain angular and positional relation of the set up parts.

An additional object is to provide a carton structure in which certain parts are provided with compression struts greatly stiffening the carton and being of self-interlocking action in the carton.

A notable object is to provide a carton whose several folding panel parts are characterized as self-interlocking without, and dispensing with, various forms of tongue-and-slot, or kerf, interhooking flaps or leaves, as will be made clear hereinafter. Thus pasting of the closed parts is entirely eliminated.

The invention consists in certain advancements in this art as set forth in the ensuing disclosure and having, with the above, additional objects and advantages, and whose construction, combination and details of means, and the manner of operation will be made manifest in the description of the herewith illustrative embodiment; it being understood that modifications, variations and adaptations may be resorted to within the scope, principle and spirit of the invention as it is more directly claimed hereinafter.

Figure 1 is a perspective of the closed carton.

Figure 2 is a plan of the mono-piece blank, as cut out.

Figure 3 is a detail, sectional, perspective of the cover strip interlock relation of parts.

Figure 4 is a section across the closed carton from top to bottom to show strut position and interlock.

The carton, its method of making and its blank are now more particularly set out.

Produced from the desired stock sheet is a blank, Fig. 2, presenting a base part 2 having a clear end edge 3 and laterally joined on fold lines 4—5 by similar panels 6—7. While these panels may vary in chosen form a special feature is that the included angle in the end corner *a* is materially less than ninety degrees for a purpose herebelow set out.

The panels 6—7 are multi-sided and each side has a flange 8 foldable inward on lines 9. These flanges 8 are of a substantial width so as to afford a substantial strut-like function.

An important feature of these flanges is that their end edges 10 are on such an angle that when the flanges are in set position Fig. 4, that they lie close and parallel to the base edge 3.

Adjoining the fold line 12 along the base end 13 is a strip 14, equal in width to the base and divided into cover sections 15—16 equal in number to the multi-edged side walls 6—7. The sections 15—16 are foldable on connecting line 17 to bend about the salient angle *b*, and the end section has a short tongue 19 bendable inwardly on line 20 so as to hook in over the base 2, Fig. 3 and below the inturned strut flanges 8, Fig. 4.

The blank cut to the shape shown and described may then be folded to box shape the procedure being as follows: the strut flanges 8 are bent in to a right-angle to the plane of their walls 6—7; these are bent to right-angle to the base; the cover strip is bent up on line 12, and on line 17 to fit the ridge angle *b* and the tongue 19 bent in to an angle of less than 90° to section 16.

To facilitate closing the carton one side wall, as 7, Fig. 4 is tilted outward and the top corners *c* of the struts 8—8 are pressed or deflected downward at P so as to clear the ridge of the carton. This is necessary because the diagonal D of the struts 8 is much greater than the height to the ridge from base. While the side 7 is thus out-tilted the hooking tongue 19 is tucked into place between the base end 3 and the strut ends 10. In this action the cover section 16 moves as a radiant part of the ridge as a center. The angle *a* being less than 90° causes the tongue

to hook around the ends of the struts and automatically interlock closed. This done the side wall 7 is pushed into place and the strut flanges spring out to the ridge.

Thus the struts take compression loads on the ridge and greatly stiffen the box, and they automatically resist opening of the side wall by reason of their diagonal dimension which causes the corner *c* to jam against the ridge fold.

The close proximity of the strut ends 10 to the base end 3 is highly important in the interlocking of the tongue 19 since they cooperate as holders when effort is applied to pull open the cover end.

What is claimed is:

A container consisting of a one-piece blank which includes a base at the sides of which are foldable, triangular wall panels the outer sides of each of which has a set of foldable flanges whose several ends near the base will, when the panels are in effective position, lie parallel and close to the ends of the base, and a foldable closure strip extending from an end margin of the base and continuing around the panels and lapping about the inwardly folded flanges of said walls and having a locking-hook tongue inturned over the near base edge and interlocking positively between the base and the near end edges of inturned flanges; the flanges forming struts whose ends at the corner bend of the strip lie close and parallel to the said bend to form an internal support for the same.

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